



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,290	09/26/2003	Johann Borenstein	2115-001857/CPB	8320
27572	7590	06/07/2004	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C.			DUDA, RINA I	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	
			2837	

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/672,290

Applicant(s)

BORENSTEIN ET AL.

Examiner

Rina I Duda

Art Unit

2837

AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ng et al (US patent 6162171).

Claims 1, 2, Ng et al disclose a robotic system comprising a plurality of segments 2 having a first wall and a second wall; an integrated joint actuator assembly 3 having a plurality of below-type actuators individually connecting at least a portion of the segments; a plurality of drive mechanisms 11 (leg mechanisms) coupled to each of the segments 2 to provide traction at any position about the periphery using pads 14; an external power source; a power transmission system found in cavity 8 for connecting the power source to the drive mechanisms.

Claims 3 and 12, as shown in figures 1 and 7 the segments are identical.

Claims 4 and 13, Ng et al describe in column 4 lines 28-62 that the robotic system includes a steerable head coupled to one of the segments and a controller for controlling the plurality of drive mechanisms and the actuators.

Claims 5 and 14, Ng et al describe in column 3 lines 49-51 that each of the joint actuators has three degrees of freedom.

Art Unit: 2837

Claims 6 and 15, Ng et al describe that the robotic system includes a continuous drive track and a gear system 80 and 83.

Claims 7 and 16, as shown in figures 1 and 2, the plurality of drive mechanisms are disposed on each of four sides of each of said segments for providing traction.

Claims 8 and 9, as described in column 6 lines 13-27, control means 60 individually actuates the bellow-type actuators in order to allow movement of one of the segments relative to an adjacent segment and maintains a predetermined position, stiffness, and airflow.

Claims 10 and 11, Ng et al disclose a robotic system comprising a plurality of segments 2 having a first wall and a second wall; an integrated joint actuator assembly 3 having a plurality of below-type actuators individually connecting at least a portion of the segments; a plurality of drive mechanisms 11 (leg mechanisms) coupled to each of the segments 2 to provide traction at any position about the periphery using pads 14; an external power source; a power transmission system found in cavity 8 for connecting the power source to the drive mechanisms; and a control means 60 for individually actuating each of the bellow-type actuators and maintaining a desired position, stiffness in the actuators.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The documents cited in form PTO-892 disclose other robotic systems having a plurality of segments and pneumatic actuators.

Art Unit: 2837

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rina I Duda whose telephone number is 571-272-2062.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2800 ext. 41. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


RINA DUDA
PRIMARY EXAMINER